



Newsletters

Deliverable 4.4

WP 4:
Authors:

Communication and dissemination

Ancelle, Amélie (ESTELA)
Bial, Marcel (ESTELA)
Crabs, Bérénice (ESTELA)
Genikomsakis, Konstantinos (ESTELA)
Leung, Janis (ESTELA)
Marsico, Angelica (ESTELA)
Rostoka, Santa (ESTELA)
Souza, Andrés (ESTELA)

30 September 2022





DELIVERABLE FACTSHEET

Deliverable no.:	4.4
Title of Deliverable:	Newsletters
Responsible Partner:	ESTELA
WP no. and title:	WP4 – Communication and dissemination
Task no. and title:	Task 4.2: Tools and activities for communication and dissemination
Version:	1
Version Date:	30 September 2022
Submission Date:	30 September 2022

Dissemination Level	
X	PU = Public
	PP = Restricted to other programme participants (including the EC)
	RE = Restricted to a group specified by the consortium (including the EC)
	CO = Confidential, only for members of the consortium (including the EC)

This report should be cited as:

Project Coordinator, Work Package Coordinator and
Lead Beneficiary



ESTELA, European Solar Thermal Electricity Association

Contributing Partners



CIEMAT, Centro de Investigaciones Energéticas,
Medioambientales y Tecnológicas



ENEA, Agenzia nazionale per le nuove tecnologie,
l'energia e lo sviluppo economico sostenibile



DLR, Deutsches Zentrum fuer Luft - Und Raumfahrt
EV



METU, Middle East Technical University



DISCLAIMER

The project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 838514.

The sole responsibility for the content of this publication lies with the authors. It does not necessarily reflect the opinion of the European Union. The European Commission is responsible for any use that may be made of the information contained therein.

All rights reserved; no part of this publication may be translated, reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, re-cording or otherwise, without the written permission of the publisher.

Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. The quotation of those designations in whatever way does not imply the conclusion that the use of those designations is legal without the consent of the owner of the trademark.

Project information	
Project Number:	838514
Project title:	Implementation of the Initiative for Global Leadership in Solar Thermal Electricity' — 'HORIZON-STE'
Starting date:	01/04/2019
Duration:	42 months
Call identifier:	H2020-LC-SC3-2018-JA2

ABOUT THE PROJECT

HORIZON-STE is a Horizon 2020 funded project aiming at supporting the Implementation of the Initiative for Global Leadership in Solar Thermal Electricity (STE), also known as Concentrated Solar Power (CSP), which was launched by the European Commission and adopted within the Strategic Energy Technology Plan (SET Plan) of the European Commission.

Since more than a decade, Europe's STE sector holds a worldwide technology leader until its further development abruptly hindered in Europe. To unlock this situation, the European Commission has launched a dedicated Initiative – Initiative for Global Leadership in CSP focusing on 2 targets: a cost reduction target and an innovation target, in order to keep STE's global technology leadership and rebuild a home market in Europe. Acting as competence centre of the Implementation Working Group within the SET Plan of the European Commission, the overall goal of HORIZON-STE is to support the execution of the Implementation Plan regarding both STE Research and Innovation lines as well as First-Of-A-Kind projects that will help steer countries through political, legislative, and institutional shortcomings linked to various national policies concerning solar thermal electricity. Much of the focus centres on improving procurement of manageable renewable energy sources (RES) and increased public funding for STE research.



TABLE OF CONTENTS

1	Introduction.....	6
2	Issue 1.....	7
2.1	Overview.....	7
2.2	Contents of the Newsletter – Issue 1.....	7
3	Issue 2.....	11
3.1	Overview.....	11
3.2	Contents of the Newsletter – Issue 2.....	11
4	Issue 3.....	16
4.1	Overview.....	16
4.2	Contents of the Newsletter – Issue 3.....	16
5	Issue 4.....	24
5.1	Overview.....	24
5.2	Contents of the Newsletter – Issue 4.....	24
6	Issue 5.....	27
6.1	Overview.....	27
6.2	Contents of the Newsletter – Issue 5.....	27
7	Issue 6.....	34
7.1	Overview.....	34
7.2	Contents of the Newsletter – Issue 6.....	34
8	Issue 7.....	41
8.1	Overview.....	41
8.2	Contents of the Newsletter – Issue 7.....	41
9	Conclusions.....	55
10	Glossary.....	56
11	Appendix.....	57
11.1	Templates and layouts overview.....	57



| HORIZON
STE

Implementation of the
Initiative for Global Leadership in
Solar Thermal Electricity

LIST OF FIGURES

Figure 1 “Template and layout used for HORIZON-STE project newsletters.”	57
--	----



1 INTRODUCTION

The HORIZON-STE Deliverable D4.4 “Newsletters” is an outcome of Task 4.2 “Tools and activities for communication and dissemination” as part of Work Package (WP) 4 “Communication and dissemination” for which ESTELA is WP leader. As a reminder, the overall objectives of WP4 are:

“Establishing effective channels, platforms and means for:

- Disseminating the project objectives, activity progress and outcomes to all relevant stakeholders.
- Informing relevant stakeholders on progress and achievements of the CSP SET-Plan and the Implementation Working Group to foster their engagement and commitment.
- Informing and engaging decision makers in SET Plan countries, to streamline alignment and strengthen commitment to the execution of the Implementation Plans.
- Raising awareness and mobilising wider audience and showing how the impacts are relevant to public audiences, by creating jobs, introducing a better way of energy mix for a sustainable future.

Organising events, conferences and site visits for:

- Showcasing how the collaboration between CSP/STE industry and research institution can be archived for the sake of realisation of the FOAK project(s) in Europe.
- Making better use of the results by documenting and presenting the policy advices and ensuring the messages are taken up by policy makers.

Ensuring the alignment of the project’s dissemination activities with international and national events of relevant EU projects and initiatives, as well as SET Plan Annual Events”.

Task 4.2 lasted from M1 to M42, while a total number of seven (7) newsletters were foreseen to be sent to the subscribers in the frame of this task. The goal of the newsletters was to update the stakeholders about the progress of the project and disseminate its key findings.



2 ISSUE 1

2.1 Overview

Newsletter #1 was released on the "[MEDIA OUTREACH](#)" section of the HORIZON-STE website on December 18, 2019 and was sent to the subscribers via Mailchimp. It can be accessed via this [link](#) and be downloaded as a PDF [here](#).

2.2 Contents of the Newsletter – Issue 1

ISSUE 1

18 December, Brussels

State of Play

HORIZON-STE has been running since April 2019. The Kick-off Meeting was held on the 7th May 2019, together with the STE industry and R&D stakeholders.





Work Package 1: “Implementation Plan (IP) initial and yearly status update”

Work Package 1 (WP 1) has been carrying out since May 2019 starting with the task of updating of the Implementation Plan of global CSP Initiative of the SET-Plan and the identification of the relevant countries to analyse from the industry perspective and the revision of the overall framework conditions in the identified countries. A report on countries relevance for the IP has been completed. You can download from [here](#).

The objective of this task will be, jointly with task 1.3 (on R&D perspective), the analysis of boundary conditions and options available for the development of the Implementation Plan, including industrial, market, funding and R&I issues (stakeholders). This work will be an input into Task 2.4.

We continuously monitor all relevant initiatives at European level that contribute to the achievement of CSP-IP goals, including the continuous update of the list of projects/initiatives considered relevant to the CSP-IP (H2020 projects, national projects, other international initiatives). This task will be performed as follow up of Task 1.1 in form of yearly update reports regarding market conditions and the results of relevant related initiatives, projects and activities in the CSP/STE sector. A yearly update report will be prepared in April/May 2020.

Work Pack 2: “Re-launching STE Industry in Europe”

Work Package 2 (WP2) has started in September 2019, based on the work performed in WP 1. An initial stakeholder mapping exercise has been carried out (D.2.1, submitted on 30 September 2019) targeting 14 countries, and was taken as the basis to select the countries of relevance for the next phase.

The overall aim of this Work Package is to assess the current national perspectives (as well as expected changes in the near future) regarding the needs of their energy systems. This will lead to the design of suitable value proposition offered by the STE industry to tackle those challenges. Meetings and brokerage events in countries of interest, with high- and mid-ranking authorities and relevant stakeholders will be arranged for this. Finally, draft country reports will summarise the findings from this exercise and will also integrate the supplementary perspective of R&I (from Work Package 3), addressing the status quo and potential opportunities.

Turkey will be the first country to be approached, starting from January 2020. A stakeholder mapping is currently being performed, focusing on four main stakeholders (TSO, Regulatory Authority, relevant Ministries and local industry). With the help of METU, our Turkish R&I partner, we are now starting to organise stakeholder interviews and meetings in the country.



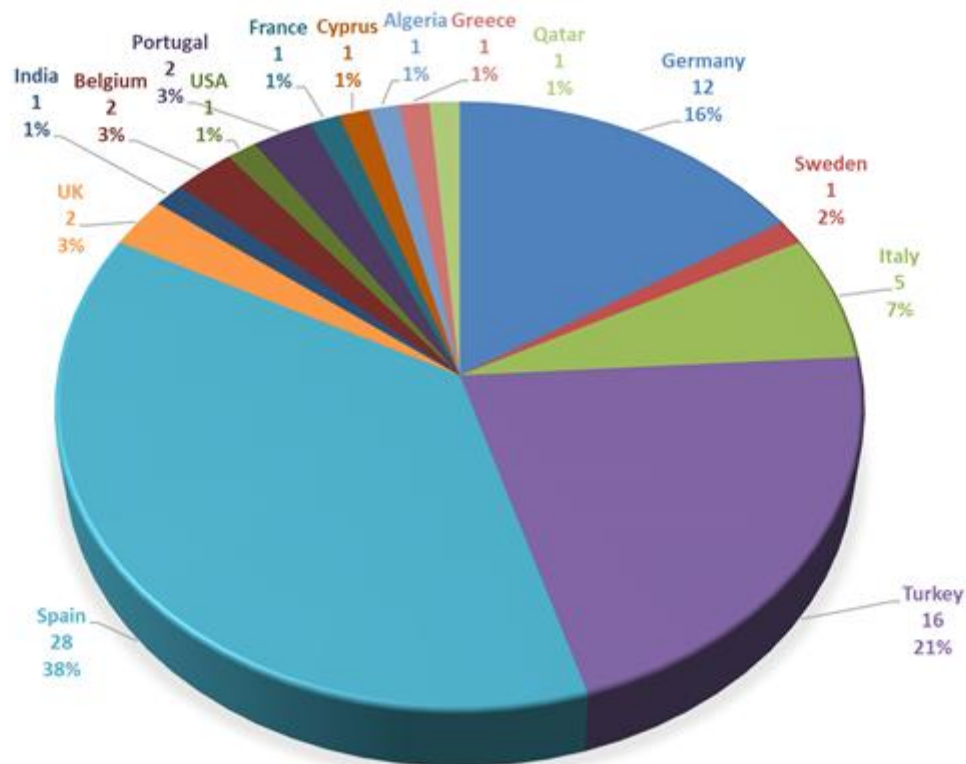
Work Package 3: “R&I Impact Maximization”

Work Package 3 (WP3) has been carrying out since May 2019 focusing on the Research and Innovation activities that may contribute to the realization of the SET-Plan. It is based on the pre-selected R&I projects of the Implementation Plan for CSP/STE and aims at defining the best boundary conditions for an effective accomplishment of the SET-Plan goals. Starting with the task of stakeholder mapping, WP 3 partners have now focused on the task of “Support for the refinement and launch of R&I projects”.

In order to gather the interest of the stakeholders regarding the participation in R&I and First-of-a-Kind (FOAK) projects, HORIZON-STE prepared and published an online survey. This survey was open to the public from 15th Oct until 2nd Dec 2019 and it was disseminated by HORIZON-STE partners through the channels in Europe and Turkey reaching a vast number of stakeholders.

This survey was based on the 12 R&I Actions defined in the Initiative for Global Leadership in Concentrated Solar Power of the SET-Plan. Among these 12 R&I Activities, 8 were selected by the consortium of the project [CSP-ERANET](#) (Horizon 2020 grant agreement No. 838311) for the ongoing call for proposals and were therefore in the focus of this survey.

A total of 75 survey participants provided the minimum data required to be considered in the analysis of the survey results. An even distribution of industrial and research stakeholders was obtained, with most of the participants being involved in CST for many years. A positive result of the survey is that for all sub-tasks proposed stakeholders expressed their interest to participate in projects covering those topics. The survey results have been published since 7th Nov on the HORIZON-STE website's restricted area for survey participants only. The report of the results will be published soon for public.



Upcoming activities:

On 26th February 2020, a “Joint National Event” (R&I and Industry) for Turkey with the support from our partner METU will be organized at METU in Ankara. Depending on the outcomes of the previous meetings, it could be a brokerage (working event) or a dissemination event.

About the event: It is an open workshop showcasing some H2020 projects and European activities (e.g.: HORIZON-STE, CSP ERANET, SolarTwins, etc.) and perhaps 1 or 2 additional H2020 projects involving Turkish industry. It will give the opportunity to present existing capacities in terms of research and industry as well as offering opportunities for collaboration and development of CST technologies.

The first Draft Country Report (concerning Turkey), will be available by June 2020. As for WP3, D.3.1. “Proposal for prioritization of Implementation Plan projects and actions for the funding agencies” will be ready by Month 9, the end of December 2019. A first rough sketch of D.3.2. “Develop indicators and methodology for monitoring success of the execution of the IP” is due by Month 10 (Jan 2020).



3 ISSUE 2

3.1 Overview

Newsletter #2 was released on the "[MEDIA OUTREACH](#)" section of the HORIZON-STE website on June 15, 2020 and was sent to the subscribers via Mailchimp. It can be accessed via this [link](#) and be downloaded as a PDF [here](#).

3.2 Contents of the Newsletter – Issue 2

ISSUE 2

15 June 2020, Brussels

State of Play

One year on, many activities of the HORIZON-STE project have been intensively carried out by all partners. In this issue of newsletter, we would like to share with you our latest progress in the last six months, as well as key findings of our activities that may be of your interests.

The annual General Assembly Meeting was successfully held on the 27th April 2020 online via conference call, due to the outbreak of pandemic. The pandemic may have changed our way of working, however it did not affect much our progress in this project.

Work Package 1: "Implementation Plan (IP) initial and yearly status update"

An intense activity has been performed by the partners in 2020 within the framework of WP1 to elaborate three important documents: the deliverables D1.3 "Analysis results of the 12 CSP R&I Activities resulting from the Implementation Plan of the SET Plan", D1.4 "Report on options for financing instruments and schemes" and D1.5 "Report on yearly update of current framework conditions and market conditions – Year 1".

Deliverable D1.3 is confidential, so we only highlighted some key findings. WP1 partners has carried out an analysis of the progress achieved in the R&I activities defined in the STE/CSP Implementation Plan of the SET Plan (hereinafter referred to as "the IP"), with the collaboration of EU-Turbines. A significant technical progress has been found in some R&I activities, while almost none in those related to power block and turbines. Although stakeholders have many innovative ideas for technology improvements and cost reduction of STE, those cannot be developed without the support of public funding. Without substantially increase in national funding and the financial support from the European Commission, the achievement of the objectives defined in the IP will be unfeasible.



The funding sources for R&D activities related to STE/CSP have been analysed in D1.4 at EU level and at national level in: Belgium (Wallonia), Cyprus, France, Germany, Greece, Italy, Portugal, Spain and Turkey. EU funding sources and schemes that could be used for the First-of-a-Kind (FOAK) plants included in the IP have been analysed too. Most of the funding sources at national level are not STE/CSP specific and therefore project proposals must compete with other technologies. The main funding sources at European level (ERANET, EUREKA, European Joint Programmes, Horizon 2020 and Horizon Europe) are also covered in D1.4.

- Deliverable D1.4 is available for public: [Download](#)

The first yearly update of current framework conditions and market conditions has been carried and several important elements were found to have a potential strong impact on the development of the STE market in the EU. However, this deliverable D1.5 is confidential, therefore we only highlighted key findings below.

In terms of policy, the publication of the European Green Deal and its related measures and funds, sets a favourable context for STE and renewables at large. The need to decarbonise multiple sectors, including electricity and industry, opens the door for Concentrated Solar Thermal technologies (CST) to unfold. The European Parliament has also put forward an own initiative on a "[Draft report on a comprehensive European approach to energy storage](#)", in which ESTELA has called for strengthening the role of Thermal Energy Storage (TES). If the study is taken up by the Commission, this would be a strong political sign for the sector and investors.

At a national level, the final National Energy and Climate Plans were published and four of the IP countries, namely Spain, Italy, Cyprus and Portugal, have proposed specific targets of STE for energy production. Also, Greece, a non-IP country, set goal to strengthen its R&I in STE to reach commercialisation levels. Regarding the other non-IP countries, in particular Belgium and Switzerland, progress in industry heat and synthetic aviation fuels sent positive signs for further CST developments.

Despite these potential positive unfolds for CST, their realisations will depend on the impact of the Covid-19 pandemic and the choices made by Member States to tackle the crisis.

Work Pack 2: "Re-launching STE Industry in Europe"

Despite the Covid-19 pandemic, HORIZON-STE has made further progress in WP2. In January, ESTELA and METU met with prominent stakeholders in Ankara: TEAIŞ (TSO), EPDK (Regulator), the Ministry of Energy and Natural Resources and the Special Advisor to the Minister of Energy. These visits allowed partners to collect information on the Turkish energy strategy and needs, to design an adapted answer. The country showed a real interest for CST, in particular for industry heat.



This was reinforced during a workshop organised by METU, and in which ESTELA took part, gathering research and industry sectors to explore the potential of CST in Turkey. Four main findings emerged: 1) capitalising on existing technological and research capacities; 2) localisation (national companies); 3) meeting the system requirements; 4) starting with small projects to attract investors.

In parallel, contacts were established with Portugal (LNEG, APREN, REN). The upcoming tender for solar with storage, also open to STE, shows how Portugal can be a real support in the relaunch of STE in Europe. HORIZON-STE also tried to establish further contact with Denmark. However, despite ESTELA's effort to get in contact with Aalborg, a prominent Danish CST company, and the Danish representative to the IWG, none of them answered to our proposal for collaboration, reducing the potential for a fruitful approach to the country. The collection of information for this country is therefore presently limited, despite its real potential for heat applications.

In addition to other public impacts, the Covid-19 pandemic is slowing down the meeting process foreseen within WP2, as travels are forbidden, and physical meetings are very limited. Although, virtual meetings are considered as potential replacement, this already has had an impact on some results of this WP.

HORIZON-STE will publish the first country reports at the end of June, including Turkey and a draft for Portugal.





Work Package 3: “R&I Impact Maximization”

WP3 has continued with its commitment to support the realization of R&I projects aligned with the SET-Plan. The main progress in this WP is reflected by the submission of two important Deliverables: *D3.1 “Proposal for prioritization of IP projects and actions for the funding agencies”* and *D3.2 “Develop indicators and methodology for monitoring success of the execution of the IP”*.

Deliverable D3.1 is confidential, therefore a general set of outcomes are presented here. D3.1 summarized the results of the Survey which was conducted by HORIZON-STE in Oct/Nov 2019 gathering information about the interest and capacities of STE/CSP stakeholders to take part in R&I and FOAK projects. This survey confirmed that there are many companies and research institutions willing to participate in R&I projects and to bring the STE/CSP technology forward. Recommendations were given by the HORIZON-STE consortium to enable the realization of these projects, especially now, that a speed-up in implementation and with large participation of European stakeholders is targeted. These recommendations include concrete actions to improve the funding framework in Europe.

The public deliverable *D3.2 “Develop indicators and methodology for monitoring success of the execution of the IP”* was completed and submitted to the EC in February 2020. In this report, indicators and a methodology for monitoring the success of the execution of the STE IP are presented. The key methodology is centred on three aspects:

1. To develop appropriate indicators to assess STE/CSP’s added-value. The added-value of STE/CSP compared to other renewable energies is related to the dispatchability and the flexibility of the output power
2. To analyse the results of different Calls for Proposals related to the SET IP
3. To track the activity of R&I actions that are executed under the framework of the SET IP

Furthermore, D3.2 presented indicators and targets for evaluation the success of the IP. The indicators split into quantitative (such as measurable physical properties) and qualitative (such as the technical level and scalability). This deliverable also discussed the need to revise the long-term STE/CSP targets in order to address any new plant concepts that can reduce costs.

- Deliverable D3.2 is available for public: [Download](#)

Work Package 4: Communication and Events

HORIZON-STE has recently published an infographic for raising the awareness of the potentials of STE/CSP and thermal energy storage (TES) systems’ future uses.



HORIZON
STE

Implementation of the
Initiative for Global Leadership in
Solar Thermal Electricity

This infographic is a set of 5 factsheets that includes the basic introduction on how STE works, facts and figures, and potential of TES and its benefits.

- Download [infographic](#)

Newsletters

For previous newsletter, please visit our website: <http://www.horizon-ste.eu/media-outreach/>



4 ISSUE 3

4.1 Overview

Newsletter #3 was released on the “[MEDIA OUTREACH](#)” section of the HORIZON-STE website on November 30, 2020 and was sent to the subscribers via Mailchimp. It can be accessed via this [link](#) and be downloaded as a PDF [here](#).

4.2 Contents of the Newsletter – Issue 3

ISSUE 3

30th Nov 2020, Brussels

State of Play

Despite the Covid-19 pandemic this year, HORIZON-STE is on track to meet its milestones and many activities have been vigorously carried out by all partners. In this issue of our newsletter, we would like to share with you our progress over the last six months, as well as key findings of our activities that may be of your interest.

Work Pack 2: “Re-launching STE Industry in Europe”

ESTELA has made additional progress in WP2 since the last update. As an overview, five countries – Turkey, Portugal, Germany, Belgium and Denmark have now been under the scope of analysis, and [Deliverable D2.2 Draft Country Report – Industry Perspective](#) and [Deliverable D2.3 Integrated Country Report](#) were submitted on 30 June 2020.

- Deliverable D2.2 is publicly available: [Download](#)
- Deliverable D2.3 is publicly available: [Download](#)

ESTELA continued further its analysis of Portugal, with meetings held online because of the pandemic. The advisors to the Secretary of State for Energy and the representatives from the Directorate General Energy and Geology gave valuable inputs on the Portuguese energy strategy. They confirmed the political interest of Portugal in STE/CSP, as stated in the NECP (300MW of CSP by 2030), and the Portuguese involvement in R&I in the sector. However, the market still needs to show positive signals. Indeed, the results from the solar auction held in August 2020 only awarded PV projects, as storage requirements were not sufficient for STE/CSP to benefit from its low-cost Thermal Energy Storage competitive advantage. EDP, a major Portuguese energy player, confirmed this hypothesis in discussions with ESTELA.



In parallel, ESTELA focused on two new countries, Belgium and Germany. For Belgium, ESTELA had a very insightful discussion with John Cockerill on the Belgian approach to energy. The large role of gas in the Belgian energy landscape could offer a new perspective for concentrated solar thermal technologies. Beyond hybridisation, applications for solar heat for industrial processes could also be looked into, in the light of the promising [pilot project](#) in the port of Antwerp. Regarding Germany, ESTELA had fruitful discussions with Deutsche-CSP, as well as with three of the four German TSOs. The interest in sector coupling and the central role of hydrogen stood out and will drive ESTELA's approach to Germany. An interview with the Ministry of Economic Affairs and Energy is planned in December 2020.

Finally, despite the Covid-19 pandemic, HORIZON-STE is on track to meet its milestone on 30 November 2020, as five Country Reports are on the verge of being completed.

Work Package 3: "R&I Impact Maximization"

WP3 has continued with its commitment to support the realization of R&I projects aligned with the SET-Plan. The main progress in this WP is reflected by the submission of two important Deliverables: *D3.1 "Proposal for prioritization of IP projects and actions for the funding agencies"* and *D3.2 "Develop indicators and methodology for monitoring success of the execution of the IP"*.

The public deliverable *D3.2 "Develop indicators and methodology for monitoring success of the execution of the IP"* presents indicators and a methodology for monitoring the success of the execution of the STE IP. The methodology is centred on three key aspects:

1. To develop appropriate indicators to assess STE/CSP's added-value. The added-value of STE/CSP compared to other renewable energies is related to the dispatchability and the flexibility of the output power;
2. To analyse the results of different Calls for Proposals related to the SET IP;
3. To track the activity of R&I actions that are executed under the framework of the SET IP.

Furthermore, to enable effective monitoring of the success of the IP, in D3.2 both quantitative indicators (such as measurable physical properties) and qualitative indicators (such as the technical level and scalability) as well as targets are defined. In this deliverable the need to revise the long-term STE/CSP targets to address new plant concepts that can reduce costs is also discussed.

- Deliverable D3.2 is publicly available: [Download](#)

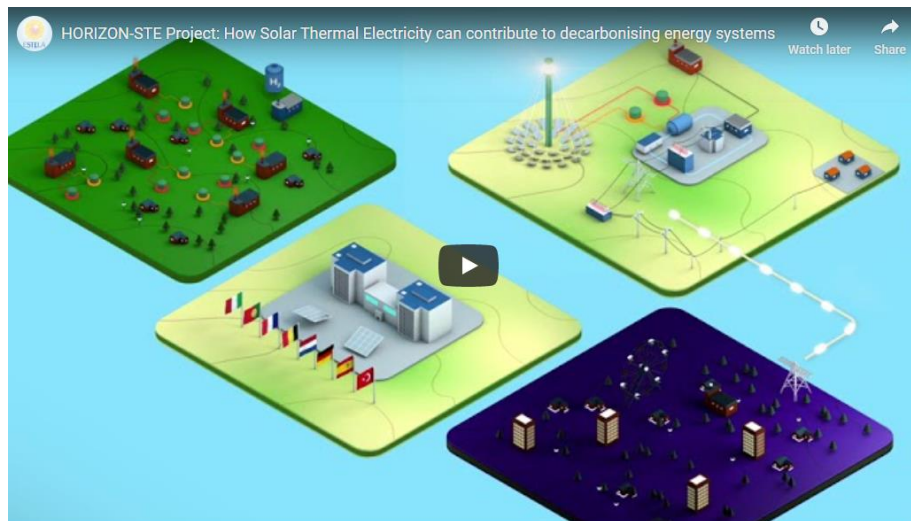
During the period July-August the HORIZON-STE R+D Partners, led by CIEMAT, had a significant participation in the preparation of the "Input Paper for the Clean



Energy Transition Strategic Research and Innovation Agenda (SRIA)” with the focus on the Thematic Cluster 1: Renewable Technologies – Concentrated Solar Power. In this document, the current status of the CST technologies is presented, the ongoing research is described and expected development and challenges are discussed. During the elaboration of this Input Paper, it became evident that the objectives defined in the Implementation Plan for the CSP SET Plan issued in 2017 should be revised and updated to be more consistent with the current situation of this sector. An internal discussion has been opened within the CSP/STE sector about this issue related to the Implementation Plan revision and update.

Work Package 4: Communication and Events

Have you watched our latest video yet?



Missed it? You can watch it here:

<https://www.youtube.com/watch?v=DwJEZDGxdU0> to find out more what concentrated solar thermal (CST) technologies can offer and contribute to decarbonising energy systems!

We launched this video campaign this fall to raise awareness of the wide potential of STE/CSP with its outstanding long-term thermal storage assets. Read our last announcement [here](#).

If you like the video, please spread the words by sharing it to your network:

[Twitter](#) Post

(URL: https://twitter.com/ESTELA_SOLAR/status/1311353102872780800)

[LinkedIn](#) Post



HORIZON
STE

Implementation of the
Initiative for Global Leadership in
Solar Thermal Electricity

(URL:

<https://www.linkedin.com/feed/update/urn:li:activity:6717058656271265792/>).

You can also find the video on [Euractiv website](#) and [Politico website](#) until end of December!

HORIZON-STE has also published in the summer an infographic for raising the awareness of the potentials of STE/CSP and thermal energy storage (TES) systems' future uses. This infographic is a set of 5 factsheets that includes the basic introduction on how STE works, facts and figures, and potential of TES and its benefits.

- Download [infographic](#)



Solar Thermal Electricity (STE)

THE FUTURE OF SOLAR
ELECTRICITY ON DEMAND



HOW STE WORKS

Example of a CSP Tower Power Plant

Solar thermal electricity (STE) technologies, also known as concentrated solar power (CSP), use mirrors to concentrate the sun's heat onto a receiver for either, driving traditional steam turbines or engines that produce electrical power, or using it (the heat) directly for industrial processes.

1. HELIOSTATS

Large mirrors track the sun and concentrate sunlight onto a receiver.

2. RECEIVER (TOWER)

Inside the receiver, the reflected energy is absorbed to heat up a heat transfer fluid, such as molten salts, to around 600°C. Molten salts also serve as a sensible-heat storage medium.

3. THERMAL STORAGE SYSTEM:

A. COLD TANK (YELLOW)

Molten salts, at around 300°C, are pumped from the cold molten salt tank up to the receiver.

B. HOT TANK (RED)

The hot molten salts coming from the receiver are stored in the hot tank before being pumped to the heat exchanger (steam generator), as required. The plant can continue to operate even when the storage is full.

4. STEAM GENERATOR

Hot molten salts are pumped from the hot tank to a heat exchanger, where water is turned into high pressure steam. The cooled-down molten salts are sent back to cold tank, ready to be sent up the tower to be heated again.

5. TURBINE

Like in other thermal power plants (coal-fired or nuclear), the steam is used to drive a turbine in a power block.

6. ELECTRIC GENERATOR

The turbine drives the generator, producing electricity.

7. TRANSFORMER

The electricity is then adjusted to the voltage level required by the grid, before it is injected into the distribution or transmission grid, and finally sent to household end-users.

8. CONDENSER

After running the turbine, steam is sent to the condenser before it is sent back to the steam generator.



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 838514.



@ESTELA_SOLAR
#HORIZON_STE #CSP #STE

www.horizon-ste.eu



THERMAL ENERGY STORAGE (TES) WHAT'S NEXT?

Mature thermal energy storage technologies have continued to develop, and new ones have come to light, extending their operational hours, their versatility and demonstrating improved new concepts. This enables more and more potential uses of TES across different sectors and industries, including:

Electricity generation



CSP plus TES power plants (standalone or even hybridized with PV or Biomass) in countries with good solar resources



Modular storage for various sources of energy (e.g. PV, wind) with integrated generation



Retrofitting existing fossil-fuelled power plants **with TES** (avoiding curtailed electricity from PV or wind via heat pumps)

Heat applications



Process heat for industry



Heating & cooling



Auxiliary in production of green hydrogen (and other gases)

WHY STE?

How can STE contribute to the energy transition?

- 1/ Avoiding greenhouse gas emissions** - accelerating the decarbonisation of the power system
- 2/ Bringing high flexibility and dispatchability** in the energy system
- 3/ Increasing the stability** of the power system (synchronous generation)
- 4/ Generating positive impact** on local economies
- 5/ Strengthening energy security**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 838514.



@ESTELA_SOLAR
#HORIZON_STE #CSP #STE

www.horizon-ste.eu



THERMAL ENERGY STORAGE (TES) WHAT'S NEXT?

Mature thermal energy storage technologies have continued to develop, and new ones have come to light, extending their operational hours, their versatility and demonstrating improved new concepts. This enables more and more potential uses of TES across different sectors and industries, including:

Electricity generation



CSP plus TES power plants (standalone or even hybridized with PV or Biomass) in countries with good solar resources



Modular storage for various sources of energy (e.g. PV, wind) with integrated generation



Retrofitting existing fossil-fuelled power plants **with TES** (avoiding curtailed electricity from PV or wind via heat pumps)

Heat applications



Process heat for industry



Heating & cooling



Auxiliary in production of green hydrogen (and other gases)



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 838514.



@ESTELA_SOLAR
#HORIZON_STE #CSP #STE

www.horizon-ste.eu



HORIZON STE

Implementation of the
Initiative for Global Leadership in
Solar Thermal Electricity

WHY STE?

How can STE contribute to the energy transition?

- 1/** **Avoiding greenhouse gas emissions**
- accelerating the decarbonisation of the power system
- 2/** **Bringing high flexibility and dispatchability** in the energy system
- 3/** **Increasing the stability** of the power system (synchronous generation)
- 4/** **Generating positive impact** on local economies
- 5/** **Strengthening energy security**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 838514.



@ESTELA_SOLAR
#HORIZON_STE #CSP #STE

www.horizon-ste.eu

Previous Newsletters

For previous newsletter, please check them out [here](#) or visit our website:
<http://www.horizon-ste.eu/media-outreach/>



5 ISSUE 4

5.1 Overview

Newsletter #4 was released on the “[MEDIA OUTREACH](#)” section of the HORIZON-STE website on June 09, 2021 and was sent to the subscribers via Mailchimp. It can be accessed via this [link](#) and be downloaded as a PDF [here](#).

5.2 Contents of the Newsletter – Issue 4

ISSUE 4

9th June 2021, Brussels

State of Play

After a year of pandemic, HORIZON-STE is on track to meet its milestones. Although all physical meetings and events were not possible, the project managed to conduct meetings and interviews online. In this newsletter issue, we would like to share with you our latest progress over the last six months, as well as key findings of our activities that may be of your interest.

Work Package 1: “Implementation Plan (IP) initial and yearly status update”

The second yearly update of current framework conditions and market conditions has been carried and several important elements were found to have a potential strong impact on the development of the STE market in the EU. However, this deliverable D1.6 is confidential, therefore we only highlighted some key findings below.

At national level, several national initiatives opened doors for STE to play a role, be it for electricity generation or wider applications, such as hydrogen production (e.g., in Germany, Portugal & Spain). This could support a further development of the concentrated solar thermal technologies and be a way to introduce the technology further in the energy mix.

At European level, a major legislative revision, called “Fit for 55% package” is planned by the European Commission and should be presented on 14 July 2021. It includes a revision of the Renewable Energy Directive (RED II), which should consider new European targets in terms of greenhouse gas emission reductions, and potentially a higher share of renewables in the final EU energy mix. In addition, the start of the Horizon Europe programme, the upcoming Renewable Energy Financing Mechanism and the recovery packages could also open new opportunities for STE projects to apply for funding.



Finally, a [joint study from the World Bank and IRENA](#) published in January 2021 brought powerful arguments for financing new STE projects, under the recovery package or other programmes.

Work Pack 2: “Re-launching STE Industry in Europe”

Further progress has been made in WP2 in the first half of 2021. The milestone M.2.3. has been achieved on 30 November 2020, with five Country Reports drafted: Turkey, Portugal, Denmark, Belgium, and Germany.

Further work has been carried out in Germany. Meetings were held with prominent German actors, allowing HORIZON-STE partners to discuss with the Federal Ministry for Economic Affairs and Energy (BMWi), as well as with Siemens Energy. In addition, contacts were established with several Spanish regions, including Extremadura, Andalucía, and Castilla La Mancha. The inputs received confirmed the interest of regions in the concentrated solar thermal technologies, not only in terms of energy policy, but also for the economic and social benefits they can bring to those regions.

Since Portugal features as a country excellent solar resources and a real interest in STE, HORIZON-STE decided to commission a study on the potential of Concentrating Solar Power in Portugal until 2030. The methodology relies on Inductive Projection Planning and points at an optimal range for each energy source. It reflects thus the ratio between “additional costs” and additional benefits regarding the future investments towards the decarbonisation of the Portuguese power system. Beyond the will to support the Portuguese NECP and the country’s policy strategies, this study also shows that Portugal could soon rank among the European leaders in terms of CSP installed capacity. Based on available data endorsed by major Portuguese stakeholders (APREN, REN, Ministry of Environment and Climate Action, ...), this report not only confirms the validity of the Portuguese NECP towards introducing CSP generation, but also suggests an optimal range of CSP between 1.2 and 2 GW of installed capacity until 2030 – instead of the currently planned 0.3 GW.

As next steps, an official presentation of the Portuguese study will be organised with Portuguese stakeholders, before being used as a support for the future national event. Regarding other countries, contacts will be initiated with Greece, and later with France and Italy, to move further in the completion of the remaining Country Reports.

Work Package 4: Communication and Events

A dissemination session has been hosted on the 23rd April 2021 in the occasion of the project’s General Assembly from 11:00 to 13:00 CET. To update the SET-Plan CSP IWG and European Commission on the progress of the project, chairperson



of the IWG and the Project Officer from the European Commission were invited to join the General Assembly. The event was well attended by the CSP industry and R&I companies and national representatives.

Presentations are available here:

Key results from country visits – by ESTELA

- [Iberian perspective \(Spain and Portugal\) and Central European perspective \(Germany, Belgium\)](#)

National funding opportunities:

- [For Germany](#) – by DLR
- [For Spain](#) – by CIEMAT
- [For Turkey](#) – by METU

Previous Newsletters

For previous newsletter, please check them out [here](#) or visit our website:
<http://www.horizon-ste.eu/media-outreach/>



6 ISSUE 5

6.1 Overview

Newsletter #5 was released on the “[MEDIA OUTREACH](#)” section of the HORIZON-STE website on December 7, 2021 and was sent to the subscribers via Mailchimp. It can be accessed via this [link](#) and be downloaded as a PDF [here](#).

6.2 Contents of the Newsletter – Issue 5

ISSUE 5

7th December 2021, Brussels

State of Play

A year and a half after the start of the Covid-19 pandemic, there is still a slow recovery in the organisation of physical events. The latest progress has shown how HORIZON-STE has continued steadily to meet its milestones, moving to online meetings and interviews with important stakeholders in the countries of focus.

HORIZON-STE is well on its way to achieving its goals. In this newsletter issue, we would like to share with you the latest progress made over the last six months of the project, as well as the results of our activities that may be of interest to you.

Work Package 1: “Implementation Plan (IP) initial and yearly status update”

Close to the deliverable of the project regarding the update of the framework conditions for R&I and industry, the Concentrated Solar Power (CSP) Implementation Working Group (IWG) endorsed a request from research centres to deliver and move towards an updated implementation plan (IP), initially defined in 2017. In this direction, IWG agreed to continue this update process, which is now close to the final stage. The last step will be the adoption of the final version of the IP by the Strategic Energy Technology Plan (SET Plan) Steering Group, prepared by a core group of research and industry representatives. This updated IP will essentially contain:

- A new set of Research and Innovation (R&I) activities, and
- Strategic objectives for the industry with clear indications about specific boundary conditions (non-technological conditions) for the industry to achieve these targets.



In addition to the IP update, the project continues to monitor legislative measures taken at EU level relevant for the CSP/STE sector:

- On 7 June 2021, the European Commission launched the public consultation on the revised Climate, Energy and Environmental Aid Guidelines (CEEAG), inviting all interested parties to contribute with comments on this set of measures taken in response to the challenges in achieving the European Green Deal objectives: A key point of this revision is the widening of the scope of the Guidelines to new areas and all technologies contributing to the Green Deal, including support for renewable energy.
- On 14 July 2021, the European Commission adopted the 'Fit for 55' package with legislative proposals to revise the entire EU 2030 climate and energy framework, towards raising the 2030 greenhouse gas emission reduction target to at least 55% compared to 1990 levels. Among the announced initiatives, the following are considered of high relevance to the scope of the HORIZON-STE project:
 - Revision of the EU Emissions Trading System (ETS)
 - Revision of the Regulation on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry (LULUCF)
 - Amendment of the Energy Efficiency Directive to implement the ambition of the new 2030 climate target (EED)
 - Revision of the Directive on deployment of alternative fuels infrastructure
 - Amendment to the Renewable Energy Directive to implement the ambition of the new 2030 climate target (RED)

To accelerate the clean energy transition, the revision of the Renewable Energy Directive (RED II) raises the binding target for the share of renewables in the EU energy mix to 40% by 2030. This represents a significant increase from the previous target of 32% set in the 2018 directive, opening new opportunities for the further deployment of RES technologies, including STE projects.

Last, recent studies provide an overview of the technological status, outlook of other uses of CSP/STE technology, as well as strong arguments on the cost competitiveness, economic prospects and socio-economic value for financing new STE projects. Specifically:

- [Solar thermal power plants – Heat, electricity and fuels from concentrated solar power](#) published by the German Aerospace Center (DLR) in May 2021



- [CSP – Solar Power around the clock](#) published by the German Association for Concentrated Solar Power (DCSP) in May 2021
- [Renewable Power Generation Costs in 2020](#) published by the International Renewable Energy Agency (IRENA) in June 2021

Work Package 2: “Re-launching STE Industry in Europe”

Despite the interruption of key project activities requiring physical meetings with external stakeholders as a result of the Covid-19 pandemic, further progress has been made in WP2 over the last six months with respect to the Integrated Reports in the countries of focus.

In this direction, a trilateral online meeting took place between ESTELA, DLR and DCSP to update the Germany’s Country Report with the integrated findings as well as the aligned conclusions and recommendations, with a clear focus on the mechanism that facilitates the transition from the R&I phase to market entry of innovative technologies and applications for STE technologies.

Spain is expected to launch the auction for 200 MW of new installed capacity of CSP before the end of 2021. The conditions and design parameters of this CSP auction set by the Spanish authorities will have a crucial impact on the entire CSP sector, and especially the interest of investors for more CSP projects.

Further progress has been made on the analysis of Portugal. Specifically, HORIZON-STE recently established a new contact with the Portuguese Association Of Renewable Energy (APREN) and the Spanish Association for the Promotion of the Solar Thermal Industry (PROTERMOSOLAR), leading to a new narrative regarding Portugal's optimal capacity for CSP, in addition to the planned 300 MW in the national energy and climate plan (NECP). APREN recognises the operational benefits of CSP on the Portuguese electricity system that need to be translated into their socio-economic dimensions to increase interest of political authorities in the country. Altogether the results of this broad dialogue with Portuguese entities will be the new narrative for the upcoming national event. On this occasion, the benefits of a wider deployment of CSP will be brought in perspective with the overall benefits for the Portuguese society.

Regarding the review of Greece as the next relevant country for the project, online meetings were held with important actors, i.e., the Independent Power Transmission Operator (IPTO or ADMIE in Greek) and the Regulatory Authority for Energy (RAE). These meetings provided useful insights on the Greek energy policy, as the discussions focused, among others, on the new regulatory framework, needs for interconnections capacity and electricity storage due to high balancing costs of the power system, as well as the increasing share of variable renewable energy sources and the effect of their curtailments, especially in the islands.



Towards the completion of the remaining Country Reports, the investigation of conditions in France and Italy started in autumn 2021 with a series of contacts with the main stakeholders of these countries that will be concluded by a national joint industry-R&I event in 2022.

Work Package 3: “R&I Impact Maximization”

METU is leading the efforts in WP3 on creating an internal report as part of project Deliverable 3.3 “Report on Options for Future European Joint Programme for the CSP Sector” to support the organisation and execution of a European workshop with key European CST stakeholders and solicit their input to define a strategy for the future CST Research and Innovation funding. To this end, the internal report is intended to provide inputs to this workshop through a summary and assessment of current European CST R&I networks and funding programmes to support multi-national CST R&I activities.

In this context, DLR shared information with the Coordinator of CSP-ERANET based on the update of project Deliverable 3.1 “Proposed Actions for the Funding Agencies” with the objective to give recommendations to the funding agencies for the next Call for Proposals in the CSP-ERANET programme. In this confidential report, the CSP activities funded from the 1st CSP ERANET Call were assessed regarding their topics, goals, budget, participating countries, etc., while recommendations were given to improve the impact of the 2nd and upcoming Calls.

In the same direction, CIEMAT contacted the Spanish representative of the Clean Energy Transition Partnership (CETP) to explore the possibility of organising a meeting with participants from other countries involved in the CETP. This meeting will be arranged after the new CSP Implementation Plan is distributed, with the objective to discuss and address any open issues by the participants.

Last, all WP3 partners have continued their work on the Integrated Country Reports for the countries of Spain, Germany, Italy, and Turkey, as well as on collecting data about R&I activities in EU countries not covered by a consortium member of HORIZON-STE, i.e., France, Portugal, Cyprus, Switzerland, Belgium, Netherlands, Sweden, Greece, etc.

Work Package 4: “Communication and Events”

In line with the theme “Innovative Energy Solutions” of the 23rd World Petroleum Congress (WPC), Eduardo Zarza from CIEMAT participated in the panel discussion of the on-line expert workshop on “Energy Storage Systems” held on 20 May 2021, organised by the Indian National Committee of the WPC with the support of the Indian Oil Corporation-R&D Division and the Federation of Indian Petroleum Industry (FIPI).



More information about the workshop, including the agenda and list of speakers, is available at the event [website](#).

On 25 June 2021, a [CSP Projects Joint Webinar](#) was organised by the European CSP projects SOCRATCES, MUSTEC, NEXTOWER and SFERA-III. In this event, CIEMAT participated in the round table on the potential of Concentrated Solar Power Plants, covering topics related to niche opportunities for CSP in the electricity systems of the future, major barriers to the development of CSP (political, financial, regulation, etc.), future development of the technology in the EU context, increase of actual funding resources available for CSP technologies and research, as well as needs of performance improvement in CSP plant components.

The recording of the event is available [here](#).

The CSP Technology Day took place on 21 October 2021 as an on-line event jointly organised by CSP ERANET and the EU-funded project SOCRATCES in the framework of the EU Sustainable Energy Week 2021. The objective of this event was to present the achievements and further challenges of CSP, and present upcoming funding opportunities on the sector to keep feeding the development of this promising sustainable technology. In this event, ESTELA presented the current European perspectives for CSP, while CIEMAT reported on the challenges to increase performance and reduce costs in line-focus solar technologies.

More information on the agenda, presentations and recording of the CSP Technology Day, is available at the event [website](#).

On 12 November 2021, METU gave an invited presentation on the “Overview of Concentrating Solar Thermal (CST) Technologies and Applications” in the frame of the Sisecam 36th Glass Symposium, which was held as a fully virtual event for this year.

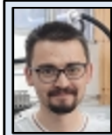


CST as a part of synergistic Renewable Energy systems

Challenge: A barrier to the clean energy transition is the variable nature (i.e. not “flexible” or “dispatchable”) of cheap PV and wind makes matching energy supply and demand difficult.

Solution: System level solutions focused on the integration of synergistic renewable energy sources and technologies to create “manageable” (i.e. “flexible” and dispatchable”) solutions.

Opportunities: The European Union is increasingly asking for integrated and synergistic renewable energy solutions as evidenced by the scope of Horizon Europe calls.



Through the EU GeoSmart project, the METU graduate student Balkan Mutlu is developing novel methods to hybridize geothermal power plants with CST and biomass to increase flexibility and dispatchability, and therefore value.



GEOSMART

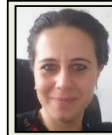
GeoSmart received funding from the European Union's Horizon 2020 research and innovation programme. Grant agreement 818576.

Assessment & development of national & European capacities and markets

National Challenge: Although Turkey's CST industrial and market potentials are among the largest in Europe, these are almost completely undeveloped and lag countries with less favorable Markets (e.g. Germany).

European Challenge: Europe is a global leader in CST capacities and markets, but this leadership position is increasingly being challenged.

Solution: Collaborate with European partners to catalyze opportunities for national and European CST industrial and market growth.



Through the EU HORIZON-STE project, Dr. Yelda Erden Topal of METU is collaborating with ESTELA (European STE association), DLR, PSA-CIEMAT, and ENEA (Italy) to assess and develop Turkey and Europe's STE capacities and markets.



**HORIZON
STE**

HORIZON-STE received funding from the European Union's Horizon 2020 research and innovation programme. Grant agreement 838514.



More information on the speakers in this event is available [here](#), while the scientific programme can be downloaded [here](#).

CIEMAT also organised in collaboration with PROTERMOSOLAR a seminar on Solar Thermal Power Plants, which took place in Madrid as a physical event on 18 November 2021 at the [International Fair on Energy and Environment GENERA](#). The seminar was composed of four presentations by CIEMAT, EXERA Energía, PROTERMOSOLAR, and SOLARCONCENTRA, followed by a round table with the participants.



The presentations of this seminar are available [here](#).

In the frame of the [15th SET Plan conference](#), which took place in Bled, Slovenia on 25-26 November 2021, a shorter version of the original [HORIZON-STE project video](#) conveying the key messages of the CSP IWG was included in the [video compilation](#) (SET Plan video 2) presented during the SET Plan IWGs snapshots video session to summarise the success stories and achievements of the SET Plan IWGs.

Last, DLR has supported the dissemination of the HORIZON-STE work by forwarding the project results to the German stakeholders coordinated by DCSP.

Previous Newsletters

For previous newsletters, please check them out [here](#) or visit our website:
<http://www.horizon-ste.eu/media-outreach/>



7 ISSUE 6

7.1 Overview

Newsletter #6 was released on the "[MEDIA OUTREACH](#)" section of the HORIZON-STE website on April 25th, 2022 and was sent to the subscribers via Mailchimp. It can be accessed via this [link](#) and be downloaded as a PDF [here](#).

7.2 Contents of the Newsletter – Issue 6

ISSUE 6

25th April 2022, Brussels

State of Play

After two years of the Covid-19 pandemic that changed the way people work and project meetings are held, spring 2022 brought a lot of promise. However, the hopes for normalcy were shattered on February 24th, 2022, by the Russian invasion of Ukraine, pushing Europe in deep geopolitical crisis and sending the soaring energy prices even higher. Europe's security landscape was changed forever, and so was the one of energy, with a long overdue push for rapid clean energy transition and / or switch to non-Russian suppliers becoming a mainstream message from the Member States.

On the bright side, the HORIZON-STE partners are pleased to announce that the project duration has been extended until September 2022, while the 3rd annual General Assembly Meeting was successfully held on March 31st, 2022, via conference call with the objective to assess the project progress and plan the next steps for the last six months of the project. In this newsletter issue, we would like to share with you the progress made over the last six months of the project, as well as the results of our activities that may be of interest to you.

Work Package 1: "Implementation Plan (IP) initial and yearly status update"

The update of the Strategic Energy Technology Plan (SET-Plan) CSP Implementation Plan was agreed by the Core Working Group in early March 2022. The draft document has been distributed to the stakeholders for final comments, corrections or suggestions with deadline set for April 19th, 2022. Afterwards, the final endorsement from the CSP Implementation Group and submission to the SET-Plan Steering Group for the final formal approval is expected.

The project continues to monitor initiatives and legislative measures taken at EU level relevant for the CSP/STE sector, which shall be reported in the third yearly



update of current framework and market conditions (deliverable D1.7 due in September 2022).

As reported in the previous newsletter issue, Spain was expecting to launch the auction for 200 MW of new installed capacity of CSP before the end of 2021. On December 30th, 2021, the Spanish authorities finally released a draft announcement for a RES auction with tentative date on April 6th, 2022, applicable to CSP installations, either standalone or hybridised with PV or biomass. Unfortunately, by the time this newsletter is issued, the final announcement of the auction is still to be published. This delay of the CSP auction is due to the pending implementation in Spain of the EU Directive about biomass, while a Royal Decree is expected by the Spanish Government to address this issue. Once the Royal Decree is issued, the official announcement of the auction should be published, giving a minimum of 2 months for the submission of offers, thus the auction is not expected to take place before mid-June 2022.

On January 18th, 2022 the EC Directorate-General for Energy launched the initiative "[Public consultation to feed into new EU strategy on solar energy](#)", which was open until April 12th, 2022. The initiative looked at "how best to achieve the required increase in solar energy capacity" via a series of 26 questions, seeking input on the main bottlenecks and barriers to investment. Unfortunately, the questionnaire fell short to address the entire solar energy sector, as most of the questions were dedicated to PV. As such, the project partners ESTELA, CIEMAT and DLR together with the national CSP associations in Spain (PROTERMOSOLAR) and Germany (Deutsche CSP) prepared a coordinated response to this consultation across entities involved in the CSP sector. The purpose of this initiative was to provide input to the consultation itself and have CSP correctly reflected in the "new EU strategy on solar energy". To achieve this, the document "[For a new, but inclusive EU strategy on solar energy](#)" was drafted, received the endorsement from 28 industry and R&I stakeholders and was included in the stakeholders' response to the initiative as a separate document.

The first draft of the "EU solar energy strategy" is expected by the end of May 2022 or beginning of June 2022.

Last but not least, on March 8th, 2022 the EC announced the [REPowerEU plan](#) to phase out the dependence of EU on fossil fuels from Russia well before 2030. The proposed plan aims at increasing the resilience of the EU-wide energy system via measures targeting the following:

- Diversification of natural gas supplies via imports from non-Russian suppliers.
- Decarbonisation of industry.
- Energy savings and roll-out of rooftop PV systems and heat pumps in buildings.
- Faster permitting process for renewable energy projects.
- Boost of biomethane and renewable hydrogen production.



While the initiative is very welcome, it does not address Europe's dependency on gas, but rather proposes to replace Russian gas with non-Russian suppliers. Furthermore, the dependency on nuclear fuel import from Russia is not addressed at all.

Work Package 2: "Re-launching STE Industry in Europe"

HORIZON-STE is pleased to report that significant updates are ongoing in five Integrated Country Reports, covering Turkey, Germany, Portugal, Spain and Italy. Two other Integrated Country Reports covering France and Greece are under preparation, in addition to the five Draft Country Reports covering Denmark, Belgium, Cyprus, the Netherlands and Switzerland.

To move forward with the Integrated Country Report of Spain, ESTELA held a series of meetings with the Spanish CSP association, PROTERMOSOLAR. The topics discussed included the forthcoming CSP auction, the Spanish industry's interest for uses of CST beyond the sole electricity market (industrial process heat, new fuels etc.) as well as the views of the Spanish TSO Red Eléctrica de España (REE) about CSP.

A rich contribution to the progress of the Integrated Country Report of Italy can be attributed to the meetings with the Italian stakeholders Terna S.p.A. and ENI S.p.A. These meetings revealed the need to study the field of CSP applications from the industrial perspective through the whole supply chain, with emphasis on uses for industrial process heat. The Italian stakeholders also emphasized almost systemic social acceptance issues at local level as the main factor blocking the development of CSP, in particular the installation of large plants that could affect the natural setting and be perceived as environmentally harmful. The latter argument stems from the difficulty of obtaining all administrative permits from regional authorities, for the construction of the plants, either at commercial or pilot scale. Social acceptance and public opinion play an important role in the authorisation processes, for which acceleration is being attempted at the national and regional levels.

For drafting the Integrated Country Report of France, ESTELA held a number of meetings with the following stakeholders: RTE (Electricity Transmission Network Operator), CEA (Alternative Energies and Atomic Energy Commission), CNRS (National Centre for Scientific Research), ENGIE and TotalEnergies. Projections for the evolution of the French energy mix can be found in scenarios drawn up by the RTE, which was commissioned by the Minister of Ecological Transition and accompanies the National Energy and Climate Plan. Both plans consider the objective of carbon neutrality with the perspective that electricity production must no longer be a source of greenhouse gases. Six scenarios are proposed, an ambitious bet, especially if aimed at nuclear production, which has a great historical importance in France and represents 67% of the energy production.



These scenarios propose different levels of dependency on nuclear power, varying from 0% up to 50% with the other part being RES. Finally, the analysis in the framework of the project indicated that the general trend that is developing in France is not focusing on the electricity system, but rather on industrial process heat. France's priority is now the high-temperature applications or developments, which appears to be also a stronger, new point of interest on the policy makers' agenda.

Work Package 3: "R&I Impact Maximization"

WP3 partners have been active in several tasks that seek to support R&D of CSP/T in Europe, such as:

- Data collection about R&I policy, activities and infrastructure for CST of European countries not actively participating in HORIZON-STE such as Portugal, Cyprus, France, Greece, and Switzerland;
- Coordination with R&D entities from Portugal, France, Italy, Greece, Cyprus, Switzerland and Turkey to align the proposals made by their National Contact Persons for the Horizon Europe Work Programmes;
- METU examined the CSP sector in Turkey through a stakeholder analysis and by scanning research networks. Based on this, a paper entitled as "[Stakeholder Analysis for Development of Concentrated Solar Thermal Technologies in Turkey: Local integration to Global Value Chains through International Channels](#)", was submitted to Journal of "The Review of Evolutionary Political Economy" with acknowledgment to HORIZON-STE and it is under review;
- METU provided feedback on the draft of the ERANET call for the Thermal Energy Storage content;
- ENEA has worked with Italian stakeholders to define the activities to carry on within the framework of the new 3-year plan for 2022-2024 of Ricerca di Sistema Elettrico Nazionale (National Electric System Research, RdS), funded by MITE;
- To explore the possibility to include CST R&I projects within the framework of Italian National Recovery and Resilience Plan; and
- To support CST R&I projects within the forthcoming call of TRI 2 Clean Energy Transition Partnership.
- CIEMAT presented two proposals to collaborate with other IWGs at the SET Plan Cross-IWGs cooperation workshop held on March 8th, 2022. One proposal was related to Solar Heat for Industrial Processes (SHIP), while the other one was related to CSP/PV full integration.

Work Package 4: "Communication and Events"

The project partners are pleased to report that on April 7th, 2022, the first national Joint Industry and R&I Event was held in Turkey. HORIZON-STE and the aligned



HORIZON STE

Implementation of the
Initiative for Global Leadership in
Solar Thermal Electricity

EU H2020 SolarTwins project co-organised a seven-part conference at the International Istanbul Solar Energy and Technologies Fair ([SOLAREX](#)). The event included content on CST Technologies from industrial, political and research perspectives. The HORIZON-STE Coordinator Marcel Bial opened the conference with a presentation on the CST industry perspective at EU and global levels. The international presentations continued with Eduardo Zarza from CIEMAT giving a presentation on CST Applications and the Spanish experience, while the EERA JP CSP Coordinator Ricardo Sánchez from CIEMAT gave a presentation on EU and global research perspectives.

14th YEAR SOLAREX ISTANBUL GÜNEŞ ENERJİSİ & TEKNOLOJİLERİ FUARI

ODTU GUNAM 07 APRIL 2022 THURSDAY GOLD HALL

MARCEL BIAL
SECRETARY GENERAL OF ESTELA

INDUSTRY PERSPECTIVE - EU AND GLOBAL

11:00 - 11:30

Simultaneous Translation, YouTube Live Stream, and other logos are at the bottom.

14th YEAR SOLAREX ISTANBUL GÜNEŞ ENERJİSİ & TEKNOLOJİLERİ FUARI

ODTU GUNAM 07 APRIL 2022 THURSDAY GOLD HALL

PROF. DR. DEREK K. BAKER
METU & ODTU GUNAM

EDUARDO ZARZA MOYA
CIEMAT-PSA

RICARDO SANCHEZ
EERA JP CSP

APPLICATIONS AND RESEARCH PERSPECTIVE - EU and GLOBAL

11:30 - 12:30

Simultaneous Translation, YouTube Live Stream, and other logos are at the bottom.

International presentations were followed by two presentations from national stakeholders on solar energy policies in Turkey. The CST part of this conference ended with an industrial round table with 5 representatives from Turkish industries. More than a hundred people participated in this event representing universities, companies, researchers, and R&D Institutes and Centres. The recording of the event is available [here](#).



Industrial Round Table (Left to Right): Haluk Erdem (SISECAM); Fatih Can (TEKFEN); Sinan Akmandor (Pars Makina); Serdar Erturan (City University of New York & Greenway CSP); Derya Gunvaran Soyler (Dow Chemicals Turkey); Tayfun Hiz (Moderator)

CIEMAT together with ATA Insights have also organised two international round tables:

- “How CSP can improve frequency stability of the power grid”, organised on January 27th, 2022. CIEMAT presented the section “Potential of Concentrating Solar Power in Portugal using Inductive Projection Planning”. The recording of the event is available [here](#);
- “The opportunities of the new 200 MW CSP tender in Spain”, organised together with PROTERMOSOLAR on February 15th, 2022. In this event, experts from the industry and R&I sectors presented their opinion about different aspects related to the Spanish auction. The recording of the event is available [here](#).

The Joint Industry and R&I Event in Turkey has kickstarted the series of project events in the framework of HORIZON-STE:

- **Joint Industry and R&I Events.** A total of six events are foreseen. The first event in Turkey already took place, while the ones in Spain, Portugal, Italy, France and Germany are in the planning phase. The goal of the events is to present the findings of the mapping exercise between needs and CSP/STE value proposition opening ground for potential cooperation and to facilitate dialogue and information exchange in a bidirectional manner at national level.



- **EU Cooperation Event.** This event will be organised in September 2022 in Brussels with the aim to build upon the results of the Joint Industry and R&I Events.
- **Final project conference.** This event will also be organised in September 2022 with the goal of spreading and anchoring the final findings of the project in policy and academic communities, and to the CSP and electricity industry.
- **European webinar and brokerage event.** The updated **Implementation** Plan for CSP will be presented at this event, which will take place in September 2022 and will be focused on possibilities for international collaboration in R&I activities at European level (Horizon Europe calls and database prepared in HORIZON-STE with the list of European stakeholders interested on R&I activities).

Last but not least, CIEMAT is pleased to share information about the upcoming workshop on “Solar Thermal Electricity”, jointly organised with [SOLARCONCENTRA](#) and [PROTERMOSOLAR](#). The workshop will take place in June within the framework of the GENERA-2022 fair with duration of 3 hours. The programme is under preparation and once ready, the event will be announced on social media and web pages of CIEMAT, SOLARCONCENTRA and PROTERMOSOLAR.

Previous Newsletters

For previous newsletters, please check them out [here](#) or visit our website: <http://www.horizon-ste.eu/media-outreach/>



8 ISSUE 7

8.1 Overview

Newsletter #7 was released on the "[MEDIA OUTREACH](#)" section of the HORIZON-STE website on September 21, 2022 and was sent to the subscribers via Mailchimp. It can be accessed via this [link](#) and be downloaded as a PDF [here](#).

8.2 Contents of the Newsletter – Issue 7

ISSUE 7

21st September 2022, Brussels

State of Play

Having successfully overcome the challenges by the COVID-19 pandemic, HORIZON-STE is coming to an end after organising the last five joint industry and R&I national events as well as the EU cooperation & closing event in Brussels. The partners are pleased to present you the conclusions and radiant results over the last six months of the project... the time has come to conclude the project!

Climate change is more and more pronounced and continues to affect our daily lives, under conditions of uncertainty due to the disruptions of the global energy market. The Russian invasion of Ukraine only amplified the on-going energy crisis. The resulting costs are always paid in times of crisis that cannot be mitigated in the short and medium term - since they lead to a partial or total reset of industry/energy strategies that are only possible over decades and are currently in discussion in all EU countries. The European Commission is therefore strongly committed to finding the best strategies to deal with this crisis that encompasses everyday life and the need to become increasingly independent of fossil fuels and the energy independence of the Member States. The current political discourse considers the independence and cost-effectiveness of renewables as keywords.

The sharp rise in electricity prices is exposing the limits of the current electricity market structure, and every kilowatt-hour of electricity Europe generates from solar, wind, hydro, biomass geothermal or green hydrogen makes us less dependent on Russian gas.

The European CSP sector is waiting for the outcome of the new tender in Spain to take place on 25 October 2022, which will reveal the type of projects and the costs levels that can be envisaged in the short term in Spain and could open the doors of CSP technology in other Member States as well.

During the HORIZON-STE project, clear signals were recorded to promote hybrid or cross-technology projects binding the best available resources. These findings will be at the heart of the upcoming EU-funded project "CST4ALL: Support to the



activities of the Concentrated Solar Thermal Technology area of the SET Plan”, also coordinated by ESTELA.

Work Package 1: “Implementation Plan (IP) initial and yearly status update”

The update of the Strategic Energy Technology Plan (SET-Plan) CSP Implementation Plan is reaching its final stage. ESTELA has submitted an advanced draft document to the CSP Implementation Working Group (IWG) Chair for review, while the last steps include the endorsement of this document by the CSP IWG and its submission to the SET-Plan Steering Group for the final formal approval.

HORIZON-STE has continued monitoring the initiatives and legislative measures taken at EU level relevant for the CSP/STE sector that will also be reported in the project deliverable D1.7 “Report on yearly update of current framework and market conditions (Yr.3)”. This comprises the third and last yearly update of current framework and market conditions as part of the project activities in the framework of WP1. It is a confidential deliverable to be submitted by the end of September 2022, therefore selected topics included in this deliverable covering the last six months of the project are presented below:

- Adoption of the [“EU solar energy strategy”](#) by the EC on 18 May 2022, consolidating the results of the open consultation process launched in January 2022.
- Release of the study on [“Renewable Power Generation Costs in 2021”](#) by IRENA in July 2022.
- Announcement of the upcoming CSP tender by the Spanish Ministry for the Ecological Transition and the Demographic Challenge (MITECO) on 18 July 2022. The final terms of this tender that will take place on 25 October 2022 are available [here](#).
- [Innovation Fund's second call for small-scale projects](#) with a capital expenditure between €2.5 and 7.5 million (deadline on 31 August 2022).
- [Innovation Fund's third call for large-scale projects](#), planned to be launched in late autumn 2022.

Work Package 2: “Re-launching STE Industry in Europe”

HORIZON-STE is pleased to announce that WP2 was completed with the submission of the project deliverable D2.4 “Final Country Reports” on 31 July 2022. The countries included in the report are the following: Belgium, Cyprus, Denmark, France, Germany, Greece, Italy, Portugal, Spain, Switzerland and Turkey.

D2.4 is a public deliverable that is currently under review by the EC services, therefore some key findings are highlighted here:

- There is a “new” interest for CSP that did not exist at the beginning of the project.



- Especially in Spain and to a lesser extent in Portugal, the perspectives for seeing new CSP power plants remain relatively realistic, since confirmed in the latest available updates of the respective National Energy and Climate Plans (NECPs).
- The upcoming CSP tender in Spain will reveal the type of projects and their cost impacting the development of the entire CSP sector in Europe.
- In Portugal as well as in Spain the interest of authorities contemplates various (hybrid) concepts incorporating parts of the CSP value chain able to support in the short term the decarbonisation of industry and later the development of new fuels.
- In Germany, strong priority is set on heat applications (in the short term) especially around the concept of “Wärmewende” (heat transition) with high ambitions towards a new H₂ market. Legislative initiatives are expected in Germany (BMWK) in this respect.
- France is a specific case: it has good natural solar resources, several major companies with a strong industrial potential to promote CSP backed by extended R&I entities. This strong potential is however exclusively directed to non-EU CSP markets (Morocco, South Africa, UAE, China).
- In Italy, some progress was achieved via closer involvement of local communities in the project development that mitigated severe (almost systemic) issues of social acceptance affecting any major infrastructure project in the country.
- The excellent solar resources in Turkey allow CST solutions for a wide range of applications, involving local industry with the possibility of international collaboration supported by a dynamic R&I environment.

Work Package 3: “R&I Impact Maximization”

The project partners have been working on the public deliverable D3.3 “Report on options for future European Joint Programme for the CSP sector” to be submitted to the EC by the end of September 2022. Reflecting the evolution of the CSP landscape since the HORIZON-STE proposal was submitted, D3.3 targets the creation of a European Joint Funding Programme for the broader CST sector that not only includes CSP/STE, but also Solar Heat for Industrial Processes (SHIP) and the production of renewable fuels (e.g., H₂). Creating a European Joint Funding Programme for the CST sector can offer transnational benefits by strengthening and leveraging CST’s unique ability to be coupled with Thermal Energy Storage (TES) to deliver cost-effective dispatchable clean energy that complements variable renewable energy technologies (e.g., PV and wind), and through its application to the hard-to-decarbonise industrial and transportation sectors. Additionally, CST can strengthen Europe’s energy security by reducing dependence on imported natural gas and oil for the industrial and transportation sectors.

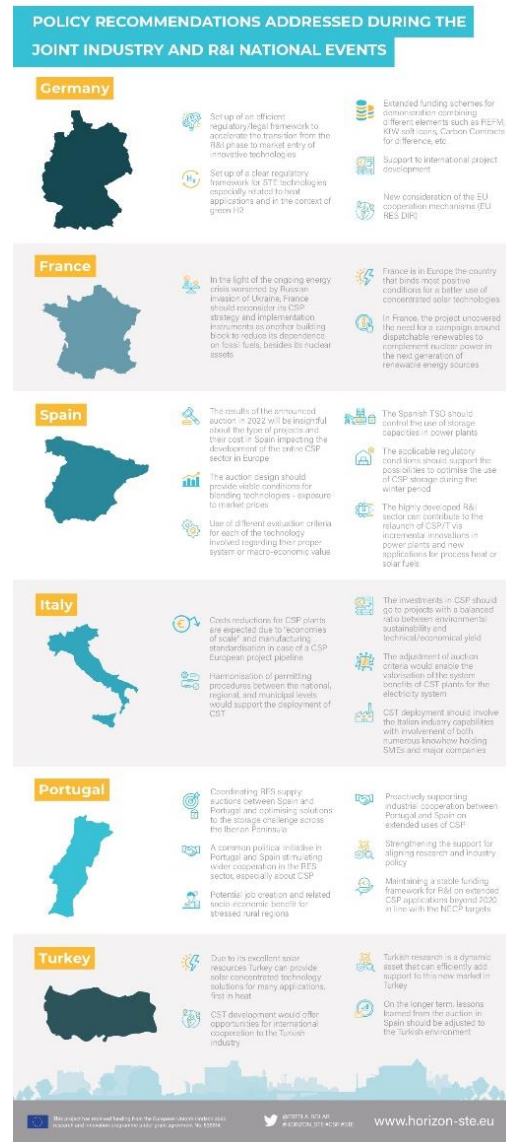


HORIZON-STE

Implementation of the Initiative for Global Leadership in Solar Thermal Electricity

Work Package 4: "Communication and Events"

HORIZON-STE has recently published its second infographic for raising awareness about the countries reviewed, the joint industry and R&I national events organised as well as the policy recommendations addressed during these events in the framework of the project.



- Download [second HORIZON-STE infographic](#)

HORIZON-STE also launched its second project video to strengthen the efforts to raise awareness about the policy recommendations for re-launching the STE industry in Europe.



HORIZON STE

Implementation of the
Initiative for Global Leadership in
Solar Thermal Electricity



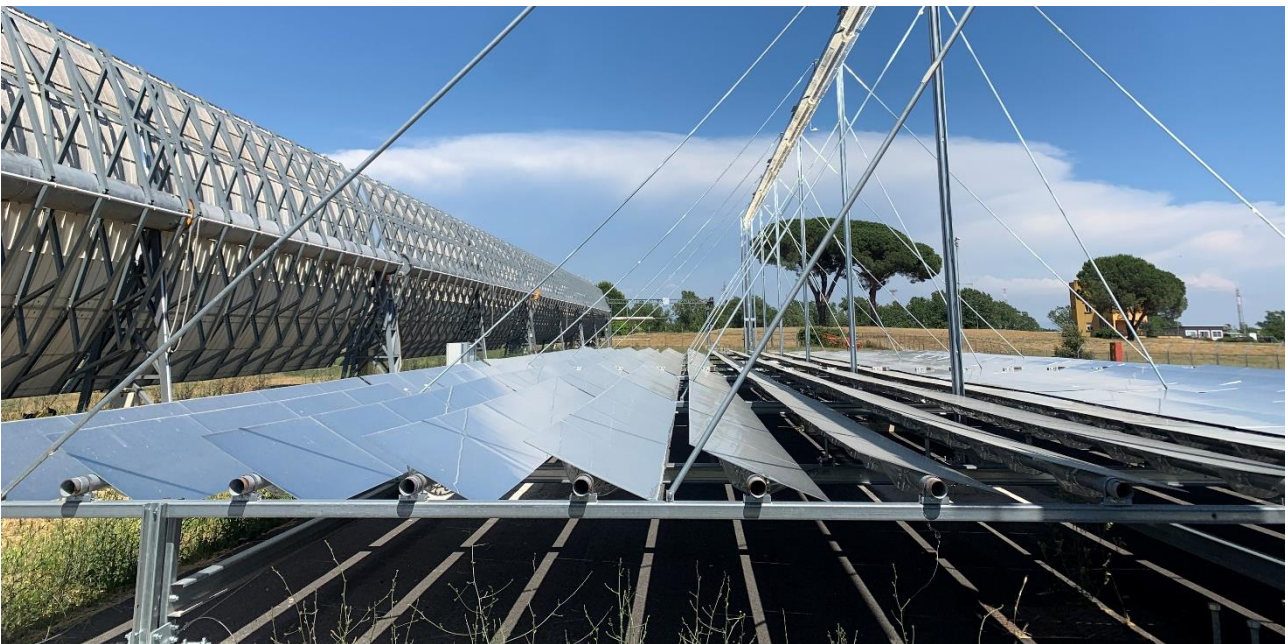
The [second HORIZON-STE video](https://horizon-ste.eu/media-outreach/) is uploaded to YouTube for easy sharing on social media and is also available at the “Media outreach” section of the project’s website: <https://horizon-ste.eu/media-outreach/>.

Following the success of the first joint industry and R&I national event held in Turkey on 7 April 2022, the HORIZON-STE partners are pleased to have organised other five joint industry and R&I events in selected EU countries, mainly aimed at discussing the key findings of the project from an R&I, industry and institutional framework perspective, as well as capturing the potential impact on CST industry of the current emergency situation in the European energy sector, which started at the end of 2021 and was amplified by the Russian invasion of Ukraine.

The second joint industry and R&I national event took place on 14 June 2022 in Rome, Italy. It was organised as a hybrid event involving both in-person and online participation and was attended by the national decision makers and authorities, industry, research institutions and others. The main goal of the event was to discuss the status and development possibilities offered by CST for the realisation of the “energy transition” in the light of the ambitious Green Deal objectives. The event also included a technical visit to the solar platform of the ENEA Casaccia Research Center.



Presentation of HORIZON-STE's main conclusions during the joint industry and R&I national event in Italy



Technical visit to ENEA Casaccia research centre - linear fresnel and parabolic trough

The third joint industry and R&I national event was held on 30 June 2022 in Berlin, Germany. Among those who attended the event were representatives from industry, research institutes, associations, national decision-makers and authorities. The main goal was to discuss the possibilities offered by CSP for the realisation of the “heat transition” (German “Wärmewende”, similar to the approach of the “Energiewende” dedicated to the decarbonisation of the electrical energy sector) in Germany and Europe with the support of German stakeholders.



Welcome speech of HORIZON-STE coordinator (Secretary General of ESTELA) during the joint industry and R&I national event in Germany

The fourth joint industry and R&I national event was organised on 6 July 2022 in Madrid, Spain. It was attended by the national decision makers and authorities, industry, and research institutions. The topics of the discussions focused, amongst others, on the revision of the Integrated NECP, the upcoming CSP tender in Spain, the promotion of applications for industrial process heat, the storage challenge of existing CSP plants in Spain, funding options, the loss of talents and industrial know-how, as well as contributions of Spanish R&I to CSP technology development. As a result of the importance of CSP in Spain, there was media coverage of the event, with Channel Extremadura publishing the story "Why the concentrated solar thermal and photovoltaic plants stop in the hours of the most sun?" that includes interviews with Lucia Blanco (Ministry of Ecological Transition and Demographic Challenge), Marcel Bial (ESTELA) and Mercedes Ballesteros (CIEMAT), available [here](#).



Panel discussion regarding the HORIZON-STE's key findings from an R&I perspective during the joint industry and R&I national event in Spain



Interview of HORIZON-STE coordinator (Secretary General of ESTELA) to Channel Extremadura

The fifth joint industry and R&I national event was held on 8 July 2022 in Lisbon, Portugal. It was organised as a hybrid event involving both in-person and online participation and was concluded with a technical visit to the LNEG facilities.



Discussion of the HORIZON-STE's key findings during the joint industry and R&I national event in Portugal



Technical visit to LNEG facilities - solar tower testing facility

The sixth and last joint industry and R&I national event was about the CSP landscape in France and was organised online on 12 July 2022.



HORIZON STE

Implementation of the
Initiative for Global Leadership in
Solar Thermal Electricity

The screenshot shows a Webex meeting window. At the top, there's a menu bar with options like File, Edit, Share, View, Audio & Video, Participant, Meeting, Breakout Sessions, and Help. Below this is a toolbar with icons for Unmute, Start video, Share, and other controls. The main content area displays a presentation slide titled 'OUTLINE' with a list of agenda items and their corresponding times. The slide also features the HORIZON STE logo and the text 'IMPLEMENTATION OF THE INITIATIVE FOR GLOBAL LEADERSHIP IN SOLAR THERMAL ELECTRICITY'. On the right side, there's a 'Participants (19)' panel showing a list of participants with their names and status icons. The bottom of the window shows a status bar with 'Unmute', 'Start video', 'Share', and other controls.

OUTLINE

- 9.30 Welcome
- 9.40 General comments (context & content related)
- 10.00 Presentation result (R&I perspective)
- 10.30 Discussion round among participants 🙋
- 11:00 Presentation result (Industry perspective)
- 11.30 Discussion round among participants 🙋
- 12:00 Overall conclusions and recommendations
- 12.30 General discussion (situation Summer 2022) 🙋
- 13.00 End of the meeting

IMPLEMENTATION OF THE INITIATIVE FOR GLOBAL LEADERSHIP IN SOLAR THERMAL ELECTRICITY | HORIZON STE

Welcome speech of HORIZON-STE coordinator (Secretary General of ESTELA) during the joint industry and R&I national event in France

The series of joint industry and R&I national events within the framework of the HORIZON-STE project were concluded with the EU cooperation & closing event, which took place in Brussels on 14 September 2022. The event was organised in two sessions to first present the project results and then discuss the institutional framework along with the R&I and industry perspectives on CSP at European level.



Welcome address in the HORIZON-STE EU cooperation & closing event by the President of ESTELA



Conclusion of HORIZON-STE EU cooperation & closing event by DG RTD and ESTELA (outgoing (on the left) and incoming (on the right) Secretary General)

On 15 June 2022, CIEMAT organised in collaboration with [PROTERMOSOLAR](#) and [SOLAR CONCENTRA](#) the seminar on “Solar thermal power plants and the decarbonization of the Spanish electricity sector” at the international energy fair GENERA 2022 in Madrid (Spain). The event was held in Spanish and consisted of



three speeches and a round table to answer the questions raised by the participants. The barriers to achieve a full decarbonisation of the Spanish electricity sector, the advantages of hybrid plants and the added cost of non-dispatchable renewable power plants for the electricity system were among the discussion points of this seminar. Further information is available [here](#).



Presentation during the seminar organised at GENERA 2022

On 20 September 2022, CIEMAT also organised a European webinar on Concentrating Solar Thermal (CST) Technologies within the framework of HORIZON-STE. The main objectives of this webinar were to:

1. Analyse the presence of concentrating solar thermal (CST) technologies in the Horizon Europe framework programme, discussing options to increase the funding for CST technologies within the EC framework programmes, not only for electricity generation, but also for process heat applications and green fuels production.



HORIZON STE

Implementation of the
Initiative for Global Leadership in
Solar Thermal Electricity

2. Present the results obtained from the study performed in HORIZON-STE about possibilities to implement a European Joint Funding Programme for CST technologies.
3. Present EU-SOLARIS ERIC to the CST stakeholders.

**HORIZON-STE PROJECT:
EUROPEAN WORKSHOP ON
CONCENTRATING SOLAR THERMAL ELECTRICITY**

*Webinar on September 20th, 2022
(From 09:30 to 13:00)*

PROGRAM

09:30-09:45	Opening of the Webinar (Eduardo Zarza, PSA)
09:45-10:00	Project HORIZON-STE: introduction and objectives (Marcel Bial, Secretary General of ESTELA)
10:00 -10:15	Concentrating Solar Thermal Technologies in HORIZON EUROPE (Luisa Revilla, CDTI)
10:15 -10:45	Open discussion on how the presence of the CST technologies in the EC Framework Programmes can be increased (Chaired by Luisa Revilla, CDTI)
10:45 – 11:00 Break	
11:00-11:20	Possibilities for a European Joint Funding Programme on CST (Eduardo Zarza, PSA)
11:20-11:40	Open discussion on possibilities for a European Joint Funding Programme on CST (Chaired by Eduardo Zarza, PSA)
11:40-11:55	EU-SOLARIS ERIC (Julián Blanco, PSA)
11:55-12:10	Questions and discussion (Chaired by Julián Blanco, PSA)
12:15	Closing of the Webinar

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement 10101514.

Opening of European webinar on CST technologies by CIEMAT

Last, HORIZON-STE held its final General Assembly meeting on 15 September 2022 at the ESTELA premises in Brussels, with the commitment of continuing the work initiated in HORIZON-STE through its successor project, namely CST4ALL, which will embrace the technology interfaces that enable a wider spectrum of uses for CSP/CST.



HORIZON
STE

Implementation of the
Initiative for Global Leadership in
Solar Thermal Electricity



In-person participants in the final General Assembly of HORIZON-STE

Previous Newsletters

For previous newsletters, please check them out [here](http://www.horizon-ste.eu/media-outreach/) or visit our website:
<http://www.horizon-ste.eu/media-outreach/>



9 CONCLUSIONS

The HORIZON-STE project published and disseminated seven (7) newsletters in total, which communicated project news, progress updates, key findings and events related to its activities on a regular six-monthly basis.

The project newsletters were sent to the subscribers via Mailchimp and were available for download from the "[MEDIA OUTREACH](#)" section of the HORIZON-STE website.

Last, the newsletters were further disseminated via the project's social media accounts so that project partners can relay them to their own contacts.



10Glossary

APREN	Portuguese Association Of Renewable Energy
CEEAG	Climate, Energy and Environmental Aid Guidelines
CETP	Clean Energy Transition Partnership
CSP	Concentrated Solar Power
CST	Concentrated Solar Technology
DCSP	German Association for Concentrated Solar Power
DLR	German Aerospace Center
EED	Energy Efficiency Directive
ETSE	EU Emissions Trading System
FIPI	Federation of Indian Petroleum Industry
FOAK	First-of-a-Kind
IP	Implementation Plan
IRENA	International Renewable Energy Agency
IWG	Implementation Working Group
LULUCF	Land use and forestry regulation
NECP	National Energy And Climate Plan
PROTERMOSOLAR	Spanish Association for the Promotion of the Solar Thermal Industry
RAE	Regulatory Authority for Energy
RED II	Renewable Energy Directive
REE	Red Eléctrica de España
RES	Renewable Energy Sources
R&D	Research & Development
R&I	Research & Industry
SET-Plan	Strategic Energy Technology Plan
SHIP	Solar Heat for Industrial Processes
SRIA	Strategic Research and Innovation Agenda
STE	Solar Thermal Electricity
TES	Thermal Energy Storage
WP	Work Package
WPC	World Petroleum Congress



HORIZON
STE

Implementation of the
Initiative for Global Leadership in
Solar Thermal Electricity

11 APPENDIX

11.1 Templates and layouts overview



Figure 1 “Template and layout used for HORIZON-STE project newsletters.”